

What Is Claimed Is:

1. A method for reconstruction of an angle signal (9) from the sensor signal (7) of a rotation angle sensor (2) having a periodic characteristic curve (5) featuring a plurality of segments (S) between which characteristic curve jumps (8) occur, characterized by the following steps:
  - determining positive and negative signal jumps (a-d) in the sensor signal (7);
  - generating a segment value (SN) after a signal jump (a-d) has been determined, the segment value specifying in which segment (S) a currently measured rotation angle ( $\alpha_L$ ) is located, and
  - reconstructing the angle signal (9) from the sensor signal (7) and the segment value (SN).
2. The method as recited in Claim 1,
  - wherein positive and negative signal jumps (a-d) in the sensor signal (7) are detected by threshold monitoring of the rate of change of the sensor signal (7).
3. The method as recited in Claim 1 or 2,
  - wherein the segment value (SN) is incremented or decremented when a positive or a negative signal jump is detected.
4. The method as recited in one of the preceding claims,
  - wherein an angle which is a function of the segment value (SN) and the segment width is added to the instantaneous sensor signal (7).
5. The method as recited in one of the preceding claims,
  - wherein the offset of the reconstructed angle signal (9) is corrected.
6. A rotation angle sensor system having a rotation angle sensor (2) whose measuring range only includes one partial range (-p, +p) of the total measuring range and which has a periodic characteristic curve (5) featuring a plurality of segments (S) between which characteristic curve jumps (8) occur, and an analyzer unit (4),
  - wherein the analyzer unit (4) is designed in such a way that it detects positive and negative signal jumps (a-d) in the sensor signal (7), that it determines a new segment value (SN) after

the occurrence of a positive or negative signal jump (a-d), and reconstructs an unambiguous angle signal (9) from the sensor signal (7) and the segment value (SN).

7. The rotation angle sensor system as recited in Claim 6, wherein the analyzer unit (4) monitors the sensor signal (7) threshold value to detect positive and negative signal jumps (a-d).

8. The rotation angle sensor system as recited in Claim 6 or Claim 7, wherein the analyzer unit (4) includes a segment counter which is incremented or decremented when a positive or negative signal jump (a-d) is detected.

9. The rotation angle sensor system as recited in one of Claims 6 through 8, wherein the analyzer unit (4) adds an angle, which is a function of the segment value (SN) and the segment width, to the sensor signal (7).

10. The rotation angle sensor system as recited in one of Claims 6 through 9, wherein means are provided for detecting an offset when the rotation angle sensor system (2, 4) is initialized.